

Customer No.: 31561
Application No.: 10/709,261
Docket NO.: 8905-US-PA-1

AMENDMENTS

In The Specification

Please amend paragraph [0018] as follows:

[0018] FIG 1 schematically illustrates the abrupt alteration of the electric dipole polarization field inside the structural body of a piezoelectric workpiece in the region proximate to an acute-angled area of a function electrode for a conventional design.

Please amend paragraph [0025] as follows:

[0025] FIG 8 schematically illustrates the cross-section of a piezoelectric workpiece without the augmenting surface layer for a conventional design.

Please amend paragraph [0029] as follows:

[0029] FIG 12 illustrates the point discharge induced at the acute-angled area of a function electrode of a piezoelectric workpiece for a conventional design.

Please amend paragraph [0036] as follows:

[0036] In a perspective view, FIG 1 schematically illustrates the abrupt alteration of the electric

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dipole polarization field inside the structural body of a piezoelectric workpiece in the region proximate to an acute-angled area of a function electrode for a conventional design. As is illustrated, a section 102 of a piezoelectric workpiece 100 is shown to have a function electrode 110 adhered to the top surface thereof. An opposite section 104 of the workpiece 100 at the right of section 102 has an end electrode 118, which is also a function electrode of the piezoelectric workpiece 100. Note that the perspective view of FIG 1 is to schematically outline the general distribution of the internal electric dipole polarization and is therefore partially shown to be transparent.

Please amended paragraph [0059] as follows:

[0059] FIG 8 schematically illustrates the cross-section of a piezoelectric workpiece without the augmenting surface layer of the present invention for the conventional design. The drawing shows the various electrodes of a workpiece 800 connected to an electric circuit system 830 of the piezoelectric system 850 for driving a load 840. For example, the electrode 811, as a common electric node, is connected both to the circuit loops of the function electrode 810 and that of the function electrode 818 of the load 840. In a typical application in which the workpiece 800 is utilized as a piezoelectric transformer that picks up electrical energy from the DC power source 830 to drive an AC load 840 (such as a cold-cathode fluorescent light, CCFL, tube), the function electrode 810 is used as the actuating input electrode and the function electrode 818 as the output.

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Please amend paragraph [0066] as follows:

[0066] FIG 12 illustrates the point discharge induced at the acute-angled area of a function electrode of a piezoelectric workpiece for the conventional design. As mentioned, such point discharges are likely to occur across the electrodes used for polarization processing. FIG 12 depicts a function electrode 1210 having a contour with sharp-pointed ends. When a point discharge takes place, at the electrode end 1212 near the center of the workpiece 1200 in particular, the workpiece 1200 is likely to be broken into pieces, which is a fatal result. The surge current in association with a point discharge across the tipped end 1212 of the function electrode 1210 and the corresponding electrode 1211 gives rise to an abrupt increase in local body mechanical stress along the path of the discharge current. Frequently, such an abrupt regional stress increase breaks up the workpiece into pieces.